

=> d his

(FILE 'HOME' ENTERED AT 10:19:04 ON 08 JUL 2003)

FILE 'CA' ENTERED AT 10:20:46 ON 08 JUL 2003
S 169436-31-1/REG#

FILE 'REGISTRY' ENTERED AT 10:20:58 ON 08 JUL 2003
L1 1 S 169436-31-1/RN

FILE 'CA' ENTERED AT 10:20:58 ON 08 JUL 2003
L2 4 S L1
S 317385-83-4/REG#

FILE 'REGISTRY' ENTERED AT 10:21:15 ON 08 JUL 2003
L3 1 S 317385-83-4/RN

FILE 'CA' ENTERED AT 10:21:16 ON 08 JUL 2003
L4 1 S L3
L5 4 S L2 OR L4
L6 0 S PEDIOCOCCUS PENTOSACEUS
L7 344 S PEDIOCOCCUS PENTOSACEUS
L8 673067 S HYDROXY OR HYDROXYLATION OR (FATTY ACID)
L9 22 S L7 AND L8
L10 631 S BIFIDOBACTERIUM BIFIDUM
L11 53 S L8 AND L10
S A LINOLEIC OR LINOLENIC OR 60-33-3/REG# OR 463-40-1/REG# OR

FILE 'REGISTRY' ENTERED AT 10:40:58 ON 08 JUL 2003
L12 1 S 506-26-3/RN

FILE 'CA' ENTERED AT 10:40:59 ON 08 JUL 2003
L13 3560 S L12

FILE 'REGISTRY' ENTERED AT 10:40:59 ON 08 JUL 2003
L14 1 S 463-40-1/RN

FILE 'CA' ENTERED AT 10:41:00 ON 08 JUL 2003
L15 15209 S L14

FILE 'REGISTRY' ENTERED AT 10:41:00 ON 08 JUL 2003
L16 1 S 60-33-3/RN

FILE 'CA' ENTERED AT 10:41:03 ON 08 JUL 2003
L17 29356 S L16
L18 38953 S A LINOLEIC OR LINOLENIC OR L17 OR L15 OR L13
L19 30516 S HYDROXYLATION
L20 102 S L18 AND L19
L21 592909 S MICROB? OR MICROORG? OR YEAST OR FUNGI
L22 17 S L20 AND L21

FILE 'WPIDS' ENTERED AT 10:49:59 ON 08 JUL 2003
L23 79 S 13 HYDROXY
L24 65380 S (FATTY ACID) OR LINOLENIC OR LINOLEIC
L25 13 S L23 AND L24

FILE 'USPATFULL' ENTERED AT 10:54:16 ON 08 JUL 2003
L26 18374 S LINOLEIC OR LINOLENIC
L27 1708 S 506-26-3/RN OR 463-40-1/RN OR 60-33-3/RN
L28 18481 S L26 OR L27
L29 314 S 13-HYDROXY
L30 753 S 13-HYDROXY?
L31 46 S L30 AND L28

=> log hold
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	22.57	188.08

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-12.40

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 10:59:31 ON 08 JUL 2003

=> d his

(FILE 'HOME' ENTERED AT 16:15:07 ON 08 JUL 2003)

FILE 'CA' ENTERED AT 16:15:42 ON 08 JUL 2003

L1 741 S DECALACTONE
 S 705-86-2/REG#

FILE 'REGISTRY' ENTERED AT 16:15:55 ON 08 JUL 2003

L2 1 S 705-86-2/RN

FILE 'CA' ENTERED AT 16:15:56 ON 08 JUL 2003

L3 556 S L2
L4 980 S L1 OR L3
L5 839 S 13-HYDROXY
L6 4763 S BETA OXIDATION
L7 0 S L4 AND L5 AND L6
L8 3 S L5 AND L4

=> log hold

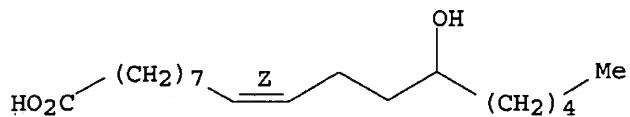
COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	18.77	21.42
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.86	-1.86

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 16:20:06 ON 08 JUL 2003

L14 ANSWER 6 OF 25 REGISTRY COPYRIGHT 2003 ACS
RN 169436-31-1 REGISTRY
CN 9-Octadecenoic acid, 13-hydroxy-, (9Z)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 9-Octadecenoic acid, 13-hydroxy-, (Z)-
FS STEREOSEARCH
MF C18 H34 O3
SR CA
LC STN Files: CA, CAPLUS

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

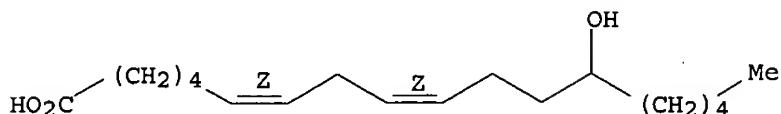
4 REFERENCES IN FILE CA (1957 TO DATE)
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=>

=> d

L11 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 317385-83-4 REGISTRY
CN 6,9-Octadecadienoic acid, 13-hydroxy-, (6Z,9Z)- (9CI) (CA INDEX
NAME)
FS STEREOSEARCH
MF C18 H32 O3
SR CA
LC STN Files: CA, CAPLUS

Double bond geometry as shown.

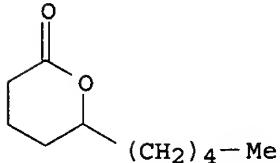


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

⇒

LS ANSWER 20 OF 20 REGISTRY COPYRIGHT 2003 ACS
 RN 705-86-2 REGISTRY
 CN 2H-Pyran-2-one, tetrahydro-6-pentyl- (8CI, 9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Decanoic acid, 5-hydroxy-, .delta.-lactone (6CI)
 OTHER NAMES:
 CN (.+-.)-.delta.-Decalactone
 CN (.+-.)-.delta.-Decanolactone
 CN (.+-.)-5-Hydroxydecanoic acid lactone
 CN (RS)-.delta.-Decalactone
 CN .delta.-Amyl-.delta.-valerolactone
 CN .delta.-Amylvalerolactone
 CN .delta.-Decalactone
 CN .delta.-Decane lactone
 CN .delta.-Decanolactone
 CN .delta.-Pentyl-.delta.-valerolactone
 CN 5-Decanolide
 CN 5-Hydroxydecanoic acid .delta.-lactone
 CN 5-Pentyl-5-pentanolide
 CN 6-Pentyltetrahydro-2H-pyran-2-one
 CN Dihydrojasmin lactone
 FS 3D CONCORD
 DR 35221-79-5
 MF C10 H18 O2
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA,
 CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM,
 HODOC*, IFICDB, IFIPAT, IFIUDB, NAPRALERT, PROMT, RTECS*, SPECINFO,
 TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

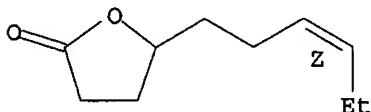
556 REFERENCES IN FILE CA (1957 TO DATE)
 7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 556 REFERENCES IN FILE CAPLUS (1957 TO DATE)
 28 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

=> d 1 2

L4 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 63095-33-0 REGISTRY
CN 2(3H)-Furanone, 5-(3Z)-3-hexenyldihydro- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2(3H)-Furanone, 5-(3-hexenyl)dihydro-, (Z)-
OTHER NAMES:
CN (Z)-.gamma.-Jasmolactone
CN cis-.gamma.-Jasmine lactone
FS STEREOSEARCH
DR 93787-95-2
MF C10 H16 O2
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX,
CHEMLIST, TOXCENTER
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



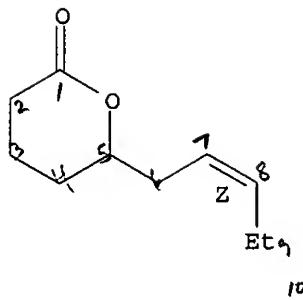
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

19 REFERENCES IN FILE CA (1957 TO DATE)
19 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L4 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 25524-95-2 REGISTRY
CN 2H-Pyran-2-one, tetrahydro-6-(2Z)-2-pentenyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-Pyran-2-one, tetrahydro-6-(2-pentenyl)-, (Z)-
OTHER NAMES:
CN (Z)-7-Decen-5-olide
CN .delta.-Jasmolactone
CN cis-Jasmin lactone
CN Jasmin lactone
CN Jasmine lactone
FS STEREOSEARCH
DR 68170-58-1
MF C10 H16 O2
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA,
CAPLUS, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHM, NAPRALERT,
TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.

Currently available stereo shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

96 REFERENCES IN FILE CA (1957 TO DATE)

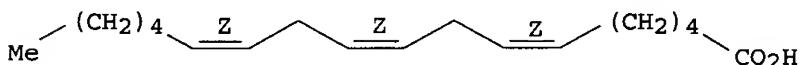
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

97 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=>

L1 ANSWER 17 OF 17 REGISTRY COPYRIGHT 2003 ACS
RN 506-26-3 REGISTRY
CN 6,9,12-Octadecatrienoic acid, (6Z,9Z,12Z)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN .gamma.-Linolenic acid (6CI, 7CI, 8CI)
CN 6,9,12-Octadecatrienoic acid, (Z,Z,Z)-
OTHER NAMES:
CN (Z,Z,Z)-6,9,12-Octadecatrienoic acid
CN 6(Z),9(Z),12(Z)-Octadecatrienoic acid
CN 6,9,12-all-cis-Octadecatrienoic acid
CN 6-cis,9-cis,12-cis-Octadecatrienoic acid
CN all-cis-6,9,12-Octadecatrienoic acid
CN cis,cis,cis-6,9,12-Octadecatrienoic acid
CN cis-6,cis-9,cis-12-Octadecatrienoic acid
CN Gamma-linolenic acid
CN Gamolenic acid
FS STEREOSEARCH
DR 34615-07-1
MF C18 H30 O2
CI COM
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*,
BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGNL, DRUGU, DRUGUPDATES,
IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NAPRALERT, PHAR, PROMT,
RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: WHO

Double bond geometry as shown.



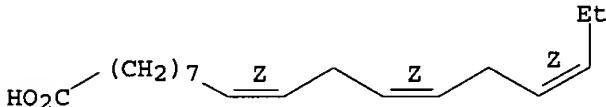
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3559 REFERENCES IN FILE CA (1957 TO DATE)
79 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3565 REFERENCES IN FILE CAPLUS (1957 TO DATE)
19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

L17 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2003 ACS
 RN 463-40-1 REGISTRY
 CN 9,12,15-Octadecatrienoic acid, (9Z,12Z,15Z)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 9,12,15-Octadecatrienoic acid, (Z,Z,Z)-
 CN Linolenic acid (8CI)
 OTHER NAMES:
 CN (all-Z)-9,12,15-Octadecatrienoic acid
 CN (Z,Z,Z)-Octadeca-9,12,15-trienoic acid
 CN .alpha.-Linolenic acid
 CN 9,12,15-all-cis-Octadecatrienoic acid
 CN 9-cis,12-cis,15-cis-Octadecatrienoic acid
 CN 9Z,12Z,15Z-Octadecatrienoic acid
 CN all-cis-9,12,15-Octadecatrienoic acid
 CN cis,cis,cis-9,12,15-Octadecatrienoic acid
 CN cis-.DELTA.9,12,15-Octadecatrienoic acid
 CN cis-9,cis-12,cis-15-Octadecatrienoic acid
 FS STEREOSEARCH
 MF C18 H30 O2
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
 BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
 CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DIPPR*, DRUGU,
 EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*,
 MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, SPECINFO, TOXCENTER, TULSA,
 USPAT2, USPATFULL, VETU
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



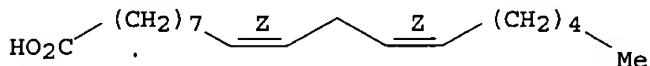
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

15185 REFERENCES IN FILE CA (1957 TO DATE)
 415 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 15211 REFERENCES IN FILE CAPLUS (1957 TO DATE)
 4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

L3 ANSWER 502 OF 502 REGISTRY COPYRIGHT 2003 ACS
RN 60-33-3 REGISTRY
CN 9,12-Octadecadienoic acid (9Z,12Z)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 9,12-Octadecadienoic acid (Z,Z)-
CN Linoleic acid (8CI)
OTHER NAMES:
CN (Z,Z)-9,12-Octadecadienoic acid
CN .alpha.-Linoleic acid
CN 9,12-Octadecadienoic acid, (Z,Z)-
CN 9-cis,12-cis-Linoleic acid
CN 9Z,12Z-Linoleic acid
CN 9Z,12Z-Octadecadienoic acid
CN 9Z,12Z-Octadecadienoic acid
CN all-cis-9,12-Octadecadienoic acid
CN cis,cis-Linoleic acid
CN cis-.DELTA.9,12-Octadecadienoic acid
CN cis-9,cis-12-Octadecadienoic acid
CN Emersol 315
CN Extra Linoleic 90
CN Linolic acid
CN Polylin 515
CN Unifac 6550
FS STEREOSEARCH
MF C18 H32 O2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*,
DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,
ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA,
MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT,
RTECS*, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

29283 REFERENCES IN FILE CA (1957 TO DATE)
1196 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
29325 REFERENCES IN FILE CAPLUS (1957 TO DATE)
10. REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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L20 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 112-80-1 REGISTRY
CN 9-Octadecenoic acid (9Z)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 9-Octadecenoic acid (Z)-
CN Oleic acid (8CI)
OTHER NAMES:
CN .DELTA.9-cis-Octadecenoic acid
CN .DELTA.9-cis-Oleic acid
CN 9-cis-Octadecenoic acid
CN 9-Octadecenoic acid, (Z)-
CN 9Z-Octadecenoic acid
CN cis-.DELTA.9-Octadecenoic acid
CN cis-9-Octadecenoic acid
CN cis-Oleic acid
CN D 100
CN D 100 (fatty acid)
CN Edenor ATI05
CN Edenor FTI05
CN Emersol 205
CN Emersol 211
CN Emersol 213NF
CN Emersol 214NF
CN Emersol 233
CN Emersol 6313NF
CN Extra Oleic 80R
CN Extra Oleic 90
CN Extra Oleic 99
CN Extra Olein 80
CN Extra Olein 90R
CN Extraolein 90
CN Industrene 105
CN Lunac O-CA
CN Lunac O-LL
CN Lunac O-P
CN Lunac OA
CN NAA 35
CN Neo-Fat 92-04
CN Oleine 7503
CN Pamolyn 100
CN Priolene 6906
CN Priolene 6907
CN Priolene 6928
CN Priolene 6930
CN Priolene 6933
CN Vopcolene 27
CN Wecoline 00
CN Z-9-Octadecenoic acid
FS STEREOSEARCH
DR 8046-01-3, 56833-51-3, 17156-84-2
MF C18 H34 O2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB,
DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,
ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB,
IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA,
PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL,
VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

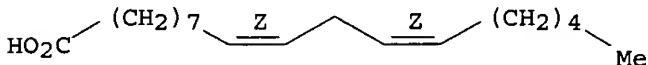
C18

=> s linoleic acid/cn
L19 1 LINOLEIC ACID/CN

=> d

L19 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 60-33-3 REGISTRY
CN 9,12-Octadecadienoic acid (9Z,12Z)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 9,12-Octadecadienoic acid (Z,Z)-
CN Linoleic acid (8CI)
OTHER NAMES:
CN (Z,Z)-9,12-Octadecadienoic acid
CN .alpha.-Linoleic acid
CN 9,12-Octadecadienoic acid, (Z,Z)-
CN 9-cis,12-cis-Linoleic acid
CN 9Z,12Z-Linoleic acid
CN 9Z,12Z-Octadecadienoic acid
CN 9Z,12Z-Octadecadienoic acid
CN all-cis-9,12-Octadecadienoic acid
CN cis,cis-Linoleic acid
CN cis-.DELTA.9,12-Octadecadienoic acid
CN cis-9,cis-12-Octadecadienoic acid
CN Emersol 315
CN Extra Linoleic 90
CN Linolic acid
CN Polylin 515
CN Unifac 6550
FS STEREOSEARCH
MF C18 H32 O2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*,
DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,
ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA,
MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT,
RTECS*, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

28134 REFERENCES IN FILE CA (1962 TO DATE)
1159 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
28189 REFERENCES IN FILE CAPLUS (1962 TO DATE)
10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> s oleic acid/cn
L20 1 OLEIC ACID/CN

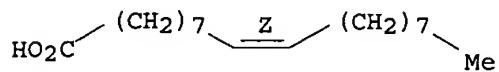
=> d

C18

18-5 = OH on 13

18-6 = ENE 12

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

37011 REFERENCES IN FILE CA (1962 TO DATE)
2141 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
37069 REFERENCES IN FILE CAPLUS (1962 TO DATE)
11 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

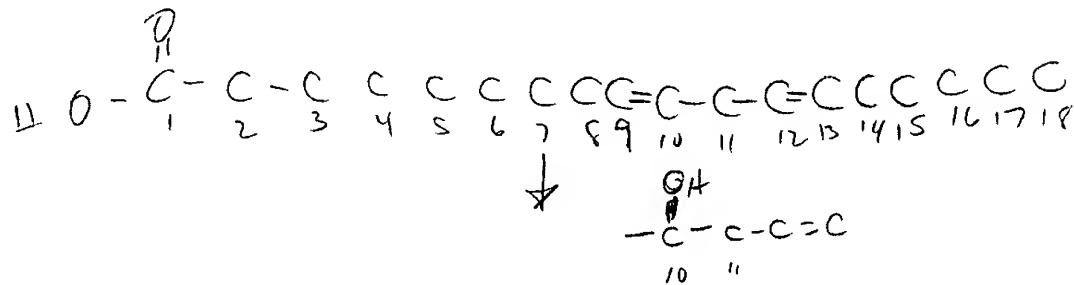
=>

L18 ANSWER 24 OF 32 CA COPYRIGHT 2003 ACS
 AN 108:130076 CA
 TI Process for hydration of unsaturated carboxylic acids using *Acetobacterium woodii*
 IN Giesel-Buhler, Hermine; Bartsch, Frank Olaf; Kneifel, Helmut; Sahm, Hermann; Schmid, Rolf
 PA Kernforschungsanlage Juelich G.m.b.H., Fed. Rep. Ger.; Henkel K.-G.a.A.
 SO Eur. Pat. Appl., 10 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 230043	A2	19870729	EP 1986-117926	19861223
	EP 230043	A3	19890705		
			R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE		
			DE 3600476	A1 19881208	DE 1986-3600476 19860110
			JP 62166892	A2 19870723	JP 1987-1973 19870109

PRAI DE 1986-3600476 19860110

AB The manuf. of unsatd. hydroxy fatty acids (e.g. ricinoleic acid) from long-chain, unsatd. fatty acids is accomplished by using the microorganism *Acetobacterium woodii*. a. *woodii* ATCC 29683 (DSM 1030) was grown to early stationary phase in a medium contg. glucose or glycerin, yeast ext., and salts in an N2/CO2 atm. The cells were used immediately (or after storage at -20.degree. under Ar) to manuf. 10-hydroxy-12-octadecenoic acid from linoleic acid. The reaction occurred in a concd. cell suspension contg. .apprx.5 mM linoleic acid and bovine serum albumin. After 15-18 h reaction, the product was extd. and purified by HPLC.



$$\underline{18-9} = 9 \text{ end}$$

$$\underline{18-8} = 10 \text{ OH}$$

L18 ANSWER 23 OF 32 CA COPYRIGHT 2003 ACS

AN 115:45844 CA

TI Production of **hydroxy** and oxo fatty acids by
microorganisms as a model of adipocere formation

AU Gotouda, Hiroko

CS Sch. Med., Hokkaido Univ., Sapporo, 060, Japan

SO Hokkaido Igaku Zasshi (1991), 66(2), 142-50

CODEN: HOIZAK; ISSN: 0367-6102

DT Journal

LA Japanese

AB Microbial synthesis of **hydroxy** and oxo fatty acids was studied as one of the model of exptl. adipocere formation. Conversion of various fatty acids into **10-hydroxy** and 10-oxo fatty acids by *Micrococcus luteus* was also studied. Fatty acids possessing cis-9-unsatd. forms were converted into 10-**hydroxy** and 10-oxo fatty acids. On the other hand, enoic acids possessing trans-9-unsatd. form or the ones which do not have double bond at the C9 position were inactive as substrates. 10-Hydroxypalmitic and 10-**hydroxystearic** acid were converted into the corresponding 10-oxo fatty acids but the 10-oxo fatty acids were inactive as substrates. To study the mechanism of the formation of 10-**hydroxy** and 10-oxo fatty acids, the crude enzyme prepn. from *Flavobacterium meningosepticum* solubilized by sonication was used. The mechanism of hydration and dehydrogenation was proved by gas chromatog.-mass spectrometry of 10-**hydroxy** and 10-oxo fatty acids produced from oleic acid in the presence of D2O or H218O. These results indicate that oleic acid is hydrated to 10-**hydroxystearic** acid at first and then dehydrogenated to 10-oxostearic acid.

oleic

L18 ANSWER 21 OF 32 CA COPYRIGHT 2003 ACS
AN 117:107912 CA
TI Microbial conversion of linoleic and linolenic acids to unsaturated
hydroxy fatty acids
AU Koritala, S.; Bagby, M. O.
CS Agric. Res. Serv., Natl. Cent. Agric. Util. Res., Peoria, IL, 61604, USA
SO Journal of the American Oil Chemists' Society (1992), 69(6), 575-8
CODEN: JAOC7; ISSN: 0003-021X
DT Journal
LA English
AB The conversion of oleic acid to 10-hydroxystearic acid with resting cells
of Nocardia cholesterolicum (NRRL 5767) has been previously reported.
These same **microorganisms** also convert linoleic and linolenic
acids to 10-hydroxy-12-cis-octadecenoic and 10-hydroxy
-12-cis,15-cis-octadecadienoic acids, resp. The reaction occurs best at
35.degree. and a pH of 6.5. Under optimum conditions, 75-80% of the
unsatd. fatty acid substrate is converted to the corresponding
hydroxy acid. The hydroxy products were characterized
by gas chromatog., gas chromatog.-mass spectrometry, and NMR and IR
spectroscopy. Other **microorganisms** that successfully converted
these substrates include another strain of N. cholesterolicum (NRRL 5768)
and Nocardia sp. (NRRL 5636).

=> d bib ab ind

L8 ANSWER 1 OF 1 CA COPYRIGHT 2003 ACS

AN 134:85179 CA

TI Manufacture of .delta.-lactones from fatty acids

IN Saitoh, Chiaki; Masuda, Yukiko; Yashiro, Atsushi; Ishiguro, Hiroki

PA Kyowa Hakko Kogyo Co., Ltd., Japan

SO PCT Int. Appl., 36 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2001004339	A1	20010118	WO 2000-JP4535	20000707	<--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
	EP 1197560	A1	20020417	EP 2000-944324	20000707	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					

PRAI JP 1999-192684 A 19990707 <--

WO 2000-JP4535 W 20000707

AB Aliph. C_{gtoreq}10 fatty acids having even no. of carbon and n-6 double bond are incubated with first microorganism such as *Pediococcus* to get n-5 hydroxy fatty acids. The n-5 hydroxy fatty acids is incubated with the second microorganism such as *Kluyveromyces* to obtain .delta.-lactones which are useful as food additives to render fruit and milk flavors. Prepn. of .delta.-decalactone from linolic acid first with *P. pentosaceus* and then with *K. marxianus* was shown.

IC ICM C12P007-64

ICS C07C059-42; C12P017-06; A23L001-03; C12P007-64; C12R001-01; C12P017-06; C12R001-645

CC 16-5 (Fermentation and Bioindustrial Chemistry)

Section cross-reference(s): 17

ST delta lactone fermn microorganism aliph fatty acid

IT Fatty acids, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(C_{gtoreq}10 and even no. carbon aliph.; manuf. of .delta.-lactones from fatty acids)

IT Fatty acids, biological studies

RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(hydroxy, 5-; manuf. of .delta.-lactones from fatty acids)

IT Milk

(low-fat; manuf. of .delta.-lactones from fatty acids)

IT *Bifidobacterium*

Bifidobacterium bifidum

Fermentation

Food additives

Kluyveromyces

Kluyveromyces marxianus

Kluyveromyces thermotolerans

Kluyveromyces wickerhamii

Lactic acid bacteria

Odor and Odorous substances
Pediococcus
Pediococcus pentosaceus
Pichia
Pichia jadinii
Saccharomyces
Saccharomyces cerevisiae
Zygosaccharomyces
Zygosaccharomyces bailii
Zygosaccharomyces cidri
Zygosaccharomyces rouxii
(manuf. of .delta.-lactones from fatty acids)

IT Corn oil
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(manuf. of .delta.-lactones from fatty acids)

IT Soybean (Glycine max)
(milk; manuf. of .delta.-lactones from fatty acids)

IT Lactones
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(.delta.-; manuf. of .delta.-lactones from fatty acids)

IT 169436-31-1P 301664-23-3P 317385-83-4P
RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(manuf. of .delta.-lactones from fatty acids)

IT 705-86-2P, .delta.-Decalactone 25524-95-2P, Jasmine lactone
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(manuf. of .delta.-lactones from fatty acids)

IT 60-33-3, Linolic acid, biological studies 463-40-1, .alpha.-Linolenic acid 506-26-3, .gamma.-Linolenic acid
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(manuf. of .delta.-lactones from fatty acids)

IT 9001-62-1, Lipase MY
RL: CAT (Catalyst use); USES (Uses)
(manuf. of .delta.-lactones from fatty acids)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(of milk, lactic bacteria fermn. increase of)

IT Proteins, biological studies
RL: BIOL (Biological study)
(whey, lactic bacteria fermn. effect on)

IT Milk preparations
(fermented, compn. of, lactic bacteria in relation to)

IT Bacteria
(lactic acid, milk component fermn. by)

IT 50-99-7, Glucose, biological studies 59-23-4, Galactose, biological studies
RL: BIOL (Biological study)
(of milk fermented by *Bifidobacterium bifidus*)

IT 127-17-3, Pyruvic acid, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(of milk, lactic bacteria fermn. decrease of)

IT 50-21-5, biological studies 64-19-7, Acetic acid, biological studies
110-15-6, Succinic acid, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(of milk, lactic bacteria fermn. increase of)

IT 63-42-3, Lactose
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(of milk, lactic bacteria fermn. of)

IT 79-09-4, Propionic acid, biological studies 79-31-2, Isobutyric acid
107-92-6, Butyric acid, biological studies 109-52-4, Valeric acid,
biological studies 142-62-1, Caproic acid, biological studies
503-74-2, Isovaleric acid
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(of milk, *Bifidobacterium bifidus* fermn. decrease of)

IT 56-40-6, Glycine, biological studies 56-41-7, Alanine, biological studies
56-45-1, Serine, biological studies 56-84-8, Aspartic acid,
biological studies 56-86-0, Glutamic acid, biological studies 56-87-1,
Lysine, biological studies 60-18-4, Tyrosine, biological studies
61-90-5, Leucine, biological studies 63-68-3, Methionine, biological studies
63-91-2, Phenylalanine, biological studies 71-00-1, Histidine,
biological studies 72-18-4, Valine, biological studies 72-19-5,
Threonine, biological studies 73-22-3, Tryptophan, biological studies
73-32-5, Isoleucine, biological studies 74-79-3, Arginine, biological studies
147-85-3, Proline, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(of milk, *Bifidobacterium bifidus* fermn. effect on)

=>

L9 ANSWER 13 OF 22 CA COPYRIGHT 2003 ACS

AN 124:115600 CA

TI Microbial manufacture of .gamma.-dodecalactone from oleic acid

IN Hosoi, Kenji; Ookawa, Takashi

PA Nikka Whisky, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07274986	A2	19951024	JP 1994-76816	19940415
PRAI	JP 1994-76816		19940415		

AB .gamma.-Dodecalactone (I) is manufd. by treating oleic acid with C-C double bond-hydroxylating microorganisms and treating the resulting I substrates such as 10-hydroxystearic acid with .beta.-oxidizing microorganisms. I-contg. solns. manufd. by the above method is mixed with EtOH-contg. solns. and distd. to give I-contg. liq. compns. *Lactobacillus brevis* was cultured in 50 mL phosphate buffer contg. 0.5 g oleic acid at 30.degree. for 48 h. The culture soln. was mixed with yeast ext. and polypeptone and *Saccharomyces cerevisiae* was cultured in the soln. at 30.degree. for 48 h to produce 185 ppm I.

IC ICM C12P017-04

ICI C12P017-04, C12R001-24; C12P017-04, C12R001-865; C12P017-04, C12R001-225; C12P017-04, C12R001-25; C12P017-04, C12R001-46; C12P017-04, C12R001-245; C12P017-04, C12R001-01

CC 16-5 (Fermentation and Bioindustrial Chemistry)

ST dodecalactone manuf microorganism; oleate hydroxylation oxidn microorganism; hydroxystearate manuf oxidn microorganism

IT *Bifidobacterium*

Bifidobacterium bifidum

Candida

Fermentation

Hansenula

Lactobacillus

Lactobacillus brevis

Lactobacillus bulgaricus

Lactobacillus casei

Lactobacillus delbrueckii

Lactobacillus plantarum

Lactobacillus sanfrancisco

Leuconostoc

Leuconostoc mesenteroides

Pediococcus

Pediococcus pentosaceus

Pichia

Saccharomyces

Saccharomyces cerevisiae

Streptococcus

Streptococcus thermophilus

(manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

IT 64-17-5, Ethanol, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(liq. compns. contg. EtOH and dodecalactone microbially manufd. from oleic acid)

IT 2305-05-7P, .gamma.-Dodecalactone

RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

IT 638-26-6P, 10-Hydroxystearic acid
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

IT 112-80-1, Oleic acid, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
(manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

=>

L5 ANSWER 1 OF 4 CA COPYRIGHT 2003 ACS

AN 134:85179 CA

TI Manufacture of .delta.-lactones from fatty acids

IN Saitoh, Chiaki; Masuda, Yukiko; Yashiro, Atsushi; Ishiguro, Hiroki

PA Kyowa Hakko Kogyo Co., Ltd., Japan

SO PCT Int. Appl., 36 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001004339	A1	20010118	WO 2000-JP4535	20000707
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1197560	A1	20020417	EP 2000-944324	20000707
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRAI JP 1999-192684 A 19990707

WO 2000-JP4535 W 20000707

AB Aliph. C_{gtoreq}10 fatty acids having even no. of carbon and n-6 double bond are incubated with first microorganism such as *Pediococcus* to get n-5 hydroxy fatty acids. The n-5 hydroxy fatty acids is incubated with the second microorganism such as *Kluyveromyces* to obtain .delta.-lactones which are useful as food additives to render fruit and milk flavors. Prepn. of .delta.-decalactone from linolic acid first with *P. pentosaceus* and then with *K. marxianus* was shown.

IC ICM C12P007-64

ICS C07C059-42; C12P017-06; A23L001-03; C12P007-64; C12R001-01; C12P017-06; C12R001-645

CC 16-5 (Fermentation and Bioindustrial Chemistry)

Section cross-reference(s): 17

ST delta lactone fermn microorganism aliph fatty acid

IT Fatty acids, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(C_{gtoreq}10 and even no. carbon aliph.; manuf. of .delta.-lactones from fatty acids)

IT Fatty acids, biological studies

RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)

(hydroxy, 5-; manuf. of .delta.-lactones from fatty acids)

IT Milk

(low-fat; manuf. of .delta.-lactones from fatty acids)

IT *Bifidobacterium*

Bifidobacterium bifidum

Fermentation

Food additives

Kluyveromyces

Kluyveromyces marxianus

Kluyveromyces thermotolerans

Kluyveromyces wickerhamii

Lactic acid bacteria

Odor and Odorous substances

Pediococcus

Pediococcus pentosaceus
Pichia
Pichia jadinii
Saccharomyces
Saccharomyces cerevisiae
Zygosaccharomyces
Zygosaccharomyces bailii
Zygosaccharomyces cidri
Zygosaccharomyces rouxii
(manuf. of .delta.-lactones from fatty acids)

IT Corn oil
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(manuf. of .delta.-lactones from fatty acids)

IT Soybean (Glycine max)
(milk; manuf. of .delta.-lactones from fatty acids)

IT Lactones
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(.delta.-; manuf. of .delta.-lactones from fatty acids)

IT 169436-31-1P 301664-23-3P 317385-83-4P
RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(manuf. of .delta.-lactones from fatty acids)

IT 705-86-2P, .delta.-Decalactone 25524-95-2P, Jasmine lactone
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(manuf. of .delta.-lactones from fatty acids)

IT 60-33-3, Linolic acid, biological studies 463-40-1, .alpha.-Linolenic acid 506-26-3, .gamma.-Linolenic acid
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(manuf. of .delta.-lactones from fatty acids)

IT 9001-62-1, Lipase MY
RL: CAT (Catalyst use); USES (Uses)
(manuf. of .delta.-lactones from fatty acids)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

L22 ANSWER 4 OF 17 CA COPYRIGHT 2003 ACS

AN 136:69146 CA

TI Manufacture of liquid compositions containing unsaturated lactones, and distilled alcoholic beverages containing the lactones

IN Koji, Hiroshi; Wanikawa, Akira

PA Nikka Whisky Distilling Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002000287	A2	20020108	JP 2000-221535	20000616
PRAI	JP 2000-221535		20000616		

AB Liq. compns. contg. unsatd. lactones, useful for alc. beverages and flavoring agents, are manufd. by hydroxylation of unsatd. fatty acids having \geq 2 unsatd. bonds with the 1st microorganisms and treating the products with the 2nd microorganisms having β -oxidn. activity. Linoleic acid (100 ppm) was treated with Lactobacillus casei N5054 (FERM P-16367) in a medium contg. sterilized dried yeast at 30.degree. for 24 h and then with Saccharomyces cerevisiae N130 (FERM P-16364) at 30.degree. for 24 h to give 7.1 ppm 6-dodecen-4-olide (I). Whiskey contg. I was manufd.

NPA

L11 ANSWER 30 OF 53 CA COPYRIGHT 2003 ACS

AN 124:115600 CA

TI Microbial manufacture of .gamma.-dodecalactone from oleic acid

IN Hosoi, Kenji; Ookawa, Takashi

PA Nikka Whisky, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07274986	A2	19951024	JP 1994-76816	19940415
PRAI	JP 1994-76816		19940415		

AB .gamma.-Dodecalactone (I) is manufd. by treating oleic acid with C-C double bond-hydroxylating microorganisms and treating the resulting I substrates such as 10-hydroxystearic acid with .beta.-oxidizing microorganisms. I-contg. solns. manufd. by the above method is mixed with EtOH-contg. solns. and distd. to give I-contg. liq. compns. Lactobacillus brevis was cultured in 50 mL phosphate buffer contg. 0.5 g oleic acid at 30.degree. for 48 h. The culture soln. was mixed with yeast ext. and polypeptone and Saccharomyces cerevisiae was cultured in the soln. at 30.degree. for 48 h to produce 185 ppm I.

IC ICM C12P017-04

ICI C12P017-04, C12R001-24; C12P017-04, C12R001-865; C12P017-04, C12R001-225; C12P017-04, C12R001-25; C12P017-04, C12R001-46; C12P017-04, C12R001-245; C12P017-04, C12R001-01

CC 16-5 (Fermentation and Bioindustrial Chemistry)

ST dodecalactone manuf microorganism; oleate hydroxylation oxidn microorganism; hydroxystearate manuf oxidn microorganism

IT Bifidobacterium

Bifidobacterium bifidum

Candida

Fermentation

Hansenula

Lactobacillus

Lactobacillus brevis

Lactobacillus bulgaricus

Lactobacillus casei

Lactobacillus delbrueckii

Lactobacillus plantarum

Lactobacillus sanfrancisco

Leuconostoc

Leuconostoc mesenteroides

Pediococcus

Pediococcus pentosaceus

Pichia

Saccharomyces

Saccharomyces cerevisiae

Streptococcus

Streptococcus thermophilus

(manuf. of dodecalactone from oleic acid by microbial

hydroxylation and oxidn.)

IT 64-17-5, Ethanol, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(liq. compns. contg. EtOH and dodecalactone microbially manufd. from oleic acid)

IT 2305-05-7P, .gamma.-Dodecalactone

RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

IT 638-26-6P, 10-Hydroxystearic acid
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

IT 112-80-1, Oleic acid, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
(manuf. of dodecalactone from oleic acid by microbial hydroxylation and oxidn.)

L11 ANSWER 39 OF 53 CA COPYRIGHT 2003 ACS
AN 110:211208 CA
TI Fermentation of milk by *Bifidobacterium bifidum* ATCC 11863. Conversion of milk constituents by fermentation
AU Goh, J. S.; Kwon, I. K.; Ahn, J. K.; Yoon, Y. H.
CS Coll. Anim. Agric., Kangweon Natl. Univ., S. Korea
SO Han'guk Ch'eksan Hakhoechi (1988), 30(10), 618-30
CODEN: HGCHAG; ISSN: 0367-5807
DT Journal
LA Korean
AB The conversion of constituents in whole milk fermented by *B. bifidum* ATCC 11863 was investigated, and the results were compared with those by several lactic acid bacteria generally used for fermented milk products. The use of lactose varied according to the kinds of bacteria, such as *B. bifidum*, *Lactobacillus acidophilus*, *L. casei* and *Streptococcus thermophilus*. When whole milk was fermented by *B. bifidum*, glucose reached 480 mg/100 mL; galactose reached 661 mg/100 mL when *S. thermophilus* was grown in whole milk. *B. bifidum* and *L. acidophilus* increased sol. N compds. in whole milk after 24 h at 37.degree.; however, there was little change in sol. N compds. of whole milk by *L. casei* and *S. thermophilus*. The free amino acids were increased by *B. bifidum* and *L. acidophilus* after 24 h at 37.degree., whereas they decreased when *L. casei* and *S. thermophilus* were grown. Polyacrylamide gel electrophoresis evidenced no significant change of casein but distinct changes of whey protein were obsd. by *B. bifidum*, *L. acidophilus*, *L. casei*, and *S. thermophilus* at 37.degree. after 24 h. The change of whey protein was more noticeable when whole milk was fermented by *L. acidophilus* and *L. casei* than by *B. bifidum* and *S. thermophilus*. The pyruvic acid content was decreased in whole milk after 24 h at 37.degree. by *B. bifidum*, *L. acidophilus*, *L. casei*, and *S. thermophilus*. Lactic and succinic acid were produced during the fermn. of whole milk by *B. bifidum*, *L. acidophilus*, and *L. casei*, but *B. bifidum* produced less lactic acid than other bacteria. Acetic acid was increased in the whole milk by *B. bifidum*, *L. acidophilus*, and *L. casei* after 24 h at 37.degree.. It increased more rapidly with *B. bifidum* than the other bacteria; however, it decreased during fermn. by *S. thermophilus*. When *B. bifidum* was grown in whole milk, volatile org. acids (propionic, isobutyric, butyric, isovaleric, valeric, and caproic) decreased.
CC 17-8 (Food and Feed Chemistry)
ST milk fermn *Bifidobacterium*; lactose milk *Bifidobacterium*; protein milk *Bifidobacterium*; fatty acid milk *Bifidobacterium*
IT *Bifidobacterium bifidum*
Lactobacillus acidophilus
Lactobacillus casei
Streptococcus thermophilus
(milk component fermn. by)
IT Caseins, biological studies
RL: BIOL (Biological study)
(milk fermn. by lactic bacteria effect on)
IT Amino acids, biological studies